CLAIMS

What is claimed is:

1. A material management system including:

    one or more waste containers adapted to receive and compact waste;

5   a fullness-measuring subsystem for determining the fullness of one or more waste containers;

    a computerized scheduling subsystem in communication with the fullness-measuring subsystem for automatically determining an optimal time to empty each waste container, based one or more scheduling factors including the fullnesses of the

10   waste container and scheduling factors related to predicted future usage.

2. The material management system of claim 1, where the scheduling factors related to the predicting future usage include customer preferences and waste hauler limitations.

3. The material management system of claim 2, where the optimal time is the latest time that satisfies customer preferences and waste hauler limitations.

15 4. The material management system of claim 2, where the customer preferences considered by the computerized scheduling sub-system include one or more preferences selected from the group consisting of:

    a preference that the customer's waste container only reach a certain level of fullness;

    a preference that the customer's waste container not be emptied on certain days of the

20   week; and

    a preference that the customer's waste container not be emptied during certain hours of the day.

5. The material management system of claim 2, where the waste hauler limitations considered by the computerized scheduling sub-system include one or more limitations selected from the group consisting of:

a number of drivers available at a specified time;

a number of trucks available at a specified time;

a distance from the waste hauler to the customer's waste container;

a distance from the customer's waste container to the material receiving site;

operating hours of the waste hauler's dispatcher/routing office; and

operating hours of a company that schedules hauls with the waste hauler.

6. The material management system of claim 3, where, if no time satisfies customer preferences and waste hauler limitations, the computerized scheduling system will choose an optimal time that satisfies one or more customer preferences.

7. The material management system of claim 3, where, if no time satisfies customer preferences and waste hauler limitations, the computerized scheduling system will choose an optimal time that satisfies one or more waste hauler limitations.

8. The material management system of claim 1, including a communication subsystem in communication with the computerized scheduling subsystem for notifying the waste hauler when to remove the waste container.

9. The material management system of claim 1, where the computerized scheduling system is subject to user-intervention.

10. The material management system of claim 9, where the user-intervention includes a user determining when to schedule the removal of a waste container.

11. The material management system of claim 1, where the predicted future usage is based on statistical analysis, performed by the computerized scheduling sub-system, of customer usage patterns including prior recorded fullnesses.

12. The material management system of claim 11, where the statistical analysis, performed by the computerized scheduling sub-system, of customer usage patterns includes linear regression.

13. The material management system of claim 1, where the computerized scheduling subsystem, for each waste container:

> causes the fullness-measuring subsystem to determine again the fullness of the waste container and the optimal pickup time, a lead time before scheduling the waste container removal; and

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> if the optimal removal time has changed, determining again when to accomplish the scheduling of the waste container removal.

14. The material management system of claim 1, where the computerized scheduling subsystem, for each waste container:

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> determines when to accomplish the scheduling of the waste container removal, based on the optimal time and one or more waste hauler limitations.

15. A computerized method for scheduling a pick up time to remove of one or more waste containers, including, for each waste container:

    automatically determining a fullness of the waste container;

    automatically determining when a waste container will a target level of fullness, based

5   on the current fullness and predicted future usage;

    automatically determining an optimal time to remove the waste container, based on when the waste container will reach a target level of fullness, customer preferences, and waste hauler limitations; and

    automatically scheduling the removal of the waste container for the optimal time.

10   16. The method of claim 15, where the target level of fullness is some percentage of fullness

17. The method of claim 16, where the percentage of fullness is about 100%.

18. The method of claim 15, including, for each waste container:

    automatically determining when to accomplish the scheduling of the waste container removal, based on the optimal time and one or more waste hauler limitations.

15   19. The method of claim 18, where automatically determining when to accomplish the scheduling includes:

    determining the latest time to accomplish the scheduling.

20. The method of claim 15, including, for each waste container:

    automatically determining again the fullness of the waste container and the optimal

20   pickup time, a lead time before scheduling the waste container removal, and if the optimal removal time has changed, determining again when to accomplish the scheduling of the waste container removal.

21. The method of claim 15, where automatically determining when the waste continer will reach the target level of fullness, based on predicted future usage, includes analyzing customer usage patterns.

22. The method of claim 15, where automatically scheduling the removal of the waste container for the optimal time is subject to user-intervention.

23. The method of claim 22, where the user-intervention includes a user determining when to schedule the removal of a waste container.

24. A computer program, stored on a tangible storage medium, for use in scheduling a pick up time to remove one or more waste containers, the computer program including executable instructions that cause a computer to, for each waste container:

    determine a fullness of the waste container;

5   determine when the waste container will reach a target level of fullness, based on the current fullness and predicted future usage;

        determine an optimal time to remove the waste container, based on the predicted full time, customer preferences, and waste hauler limitations; and

    schedule the removal of the waste container for the optimal time.

10   25. The computer program of claim 24, where the target level of fullness is some percentage of fullness.

26. The computer program of claim 24, where the executable instructions cause the computer to, for each waste container:

    determine when to accomplish the scheduling of the waste container removal waste

15   container, based on the optimal time and waste hauler limitations.

27. The computer program of claim 24, where the executable instructions cause the computer to, for each waste container:

    determine again the fullness of the waste container and the optimal pickup time, a lead time before scheduling the waste container removal, and if the optimal removal

20   time has changed, determining again when to accomplish the scheduling of the waste container removal.

28. The computer program of claim 24, where the executable instructions cause the computer to analyze customer usage patterns when determining when the waste container will reach the target level of fullness.

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